# WATER SUPPLY OUTLOOK

## KOOTENAI RIVER BASIN

## MONTANA

AS OF:

MAY 1, 1962

U. S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE

The water supply outlook for the Kootenai River drainage remains below average for the May through September period. All snow survey measurements made in Canada and Montana near the first of May show a decrease in water content during April. The May 1 water content of the snow is about 30 percent less than last May 1 and 20 percent less than the 15-year average.

Streamflow during April was above average on the Kootenai and tributaries. Streamflow for the remainder of the summer is forecast to be 88 percent average and about 25 percent less than last year.

*Report Prepared by*

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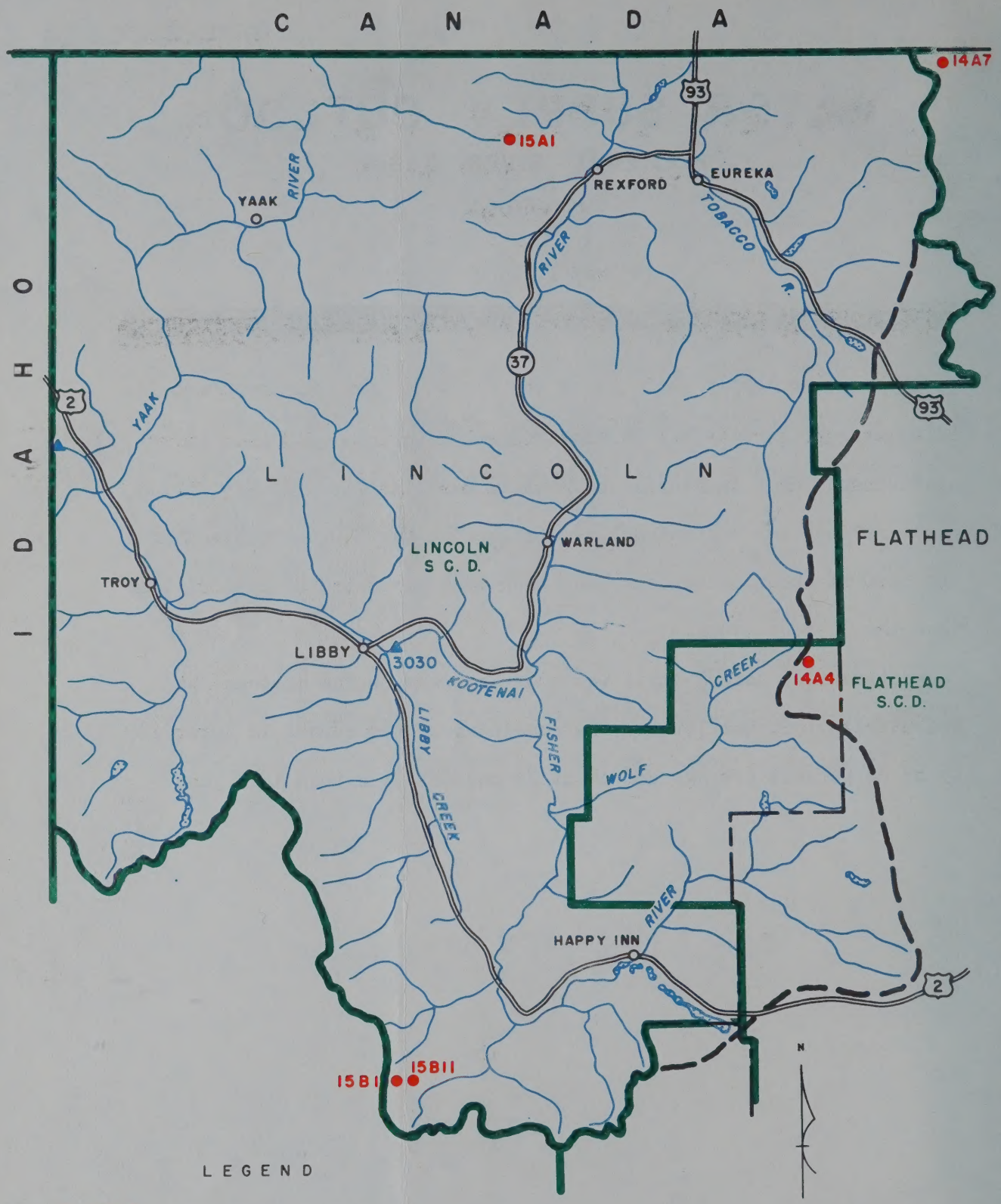
THE CONSERVATION OF WATER BEGINS WITH THE SNOW SURVEY



USDA SCS LINCOLN NEBR 1960

5,L-16,507.1




LEGEND

- 13E2 SNOW SURVEY COURSE
- 12D2M SOIL MOISTURE STATION
- 13B3A AERIAL MARKER AT SNOW COURSE
- 0125 STREAM GAGING STATION
- DRAINAGE
- S. C. D. BOUNDARY
- WATERSHED BOUNDARY
- HIGHWAY
- TOWN
- COUNTY BOUNDARY
- STATE BOUNDARY

SCALE 10 5 0 10 MILES

USDA-SCS-LINCOLN, NEBR 1960



5,L-16,507.2

# WATER SUPPLY FORECASTS

WATERSHED I - KOOTENAI

AS OF MAY 1, 1962

(1000 Acre Feet)

| NO. | RIVER AND FORECAST POINT | FORECAST PERIOD | FORECAST THIS YEAR | PERCENT AVERAGE | MEASURED FLOW LAST YEAR* | MEASURED FLOW AVERAGE |
|---|---|---|---|---|---|---|
| | KOOTENAI RIVER | | | | | |
| 3030 | Libby (at) | May-Sept | 6219 | 88 | 8267 | 6463 |
| | | May-July | 5303 | 88 | 7262 | 6024 |
| 3050 | Leonia (at) | May-Sept | 6994 | 88 | 9362 | 7994 |
| | | May-July | 6024 | 87 | 8351 | 6903 |

*PROVISIONAL DATA FURNISHED BY U.S. GEOLOGICAL SURVEY

NOTE: ALL AVERAGES BASED ON 1943-1957 (15 YEAR PERIOD).

# SNOW SURVEY DATA

## AS OF MAY 1, 1962

(inches)

| SNOW COURSE | | | CURRENT DATA | | | PAST RECORD | |
|---|---|---|---|---|---|---|---|
| | | | | | | WATER CONTENT | |
| NO. | NAME | ELEVATION | DATE OF SURVEY | SNOW DEPTH | WATER CONTENT | LAST YEAR | AVERAGE |
| 15B11 | Baree Creek | 5500 | 5/2 | 83 | 41.8 | 53.0 | 48.2* |
| 14A4 | Brush Creek | 5000 | 4/23 | 22 | 8.4 | 12.6 | 10.5* |
| Can. 10 | Fernie | 3500 | 4/30 | 0 | 0 | 2.3 | 2.7* |
| Can. 12A | Field | 4200 | 5/3 | 0 | 0 | 0.5 | 0.8* |
| Can. 43 | Gray Creek | 5100 | 4/29 | 49 | 17.5 | 23.7 | 20.4* |
| Can. 33 | Kicking Horse | 5400 | 5/1 | 31 | 11.1 | 12.8 | 11.8* |
| Can. 20B | Kimberley | 3800 | 4/26 | 0 | 0 | 0.5 | 1.5* |
| Can. 32 | Marble Canyon | 5000 | 5/2 | 36 | 9.0 | 13.0 | 13.5* |
| Can. 10A | New Fernie | 4100 | 4/30 | 10 | 3.9 | 10.2 | 6.7* |
| 15A1 | Red Mountain | 6000 | 4/25 | 37 | 14.4 | 23.4 | 19.7 |
| Can. 8A | Sinclair Pass | 4500 | 5/3 | 0 | 0 | 2.6 | 2.1* |
| Can. 20A | Sullivan Mine | 5100 | 4/30 | 24 | 9.2 | 16.5 | 11.9* |
| Can. 41 | Upper Elk River | 4400 | 4/29 | 0 | 0 | 4.1 | 2.2* |
| 14A7 | Weasel Divide | 5450 | 4/24 | 72 | 30.5 | 41.0 | 34.7* |

NOTE: ALL AVERAGES BASED ON 1943-1957 (15 YEAR PERIOD). *ADJUSTED AVERAGE

# WATER SUPPLY OUTLOOK

## FLATHEAD RIVER BASIN

## MONTANA

AS OF:

MAY 1, 1962

U. S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE

The water supply outlook for the Flathead River drainage is average to below average streamflow for the May through September period.

Snow survey measurements made near the first of May are about 15 percent less than last year and 95 percent average.

Streamflow during April was above average. Streamflow for the next 5 months is expected to be near average on the South and Middle Forks of the Flathead. Below average flow is forecast for the North Fork Flathead and above average flow is expected in the Swan drainage.

Mountain soils are generally saturated.

*Report Prepared by*

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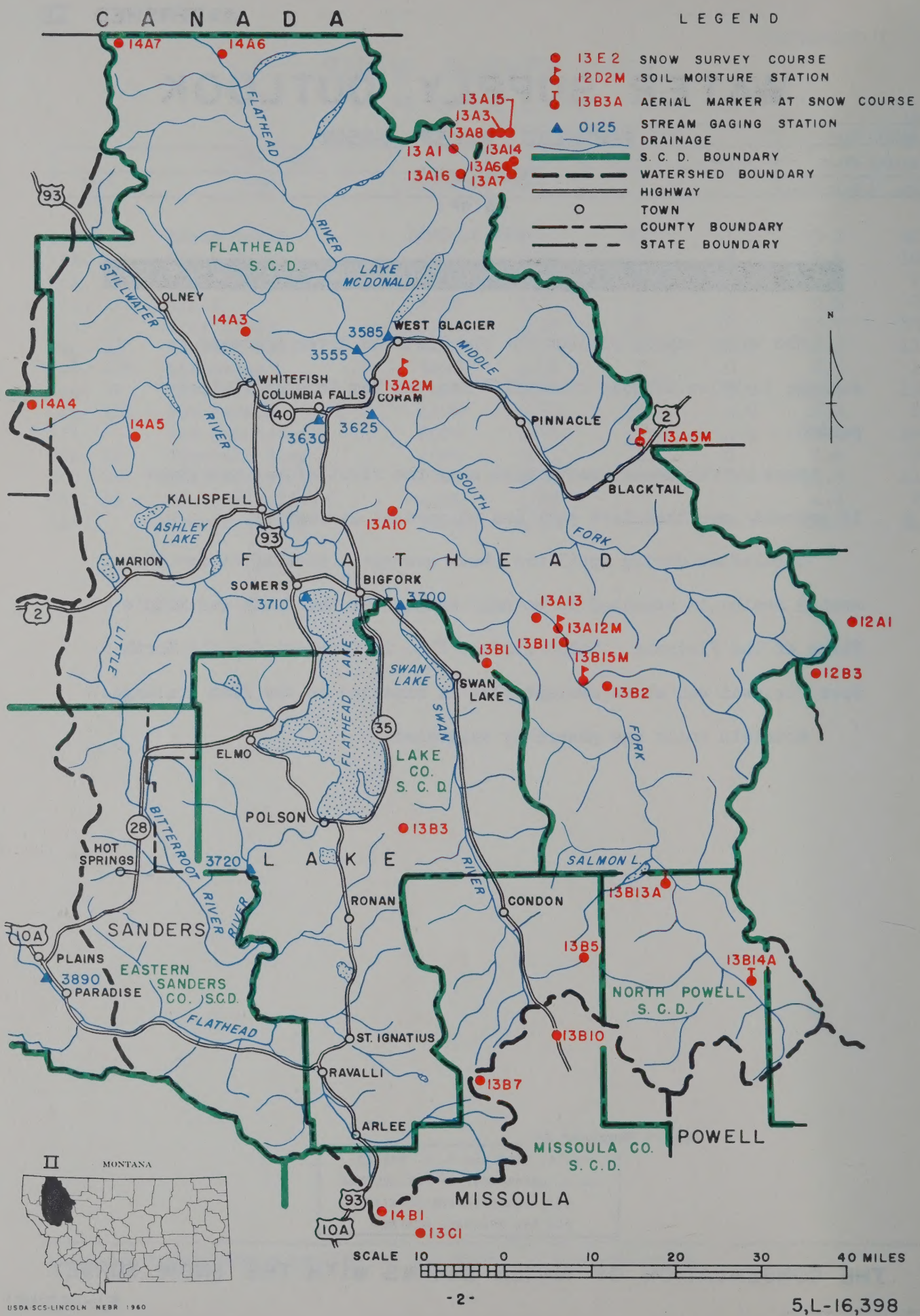
THE CONSERVATION OF WATER BEGINS WITH THE SNOW SURVEY



USDA SCS LINCOLN NEBR 1960

5,L-16,398.1




USDA SCS-LINCOLN NEBR 1960



5,L-16,398

# WATER SUPPLY FORECASTS

WATERSHED II - FLATHEAD

AS OF MAY 1, 1962

(1000 Acre Feet)

| NO. | RIVER AND FORECAST POINT | FORECAST PERIOD | FORECAST THIS YEAR | PERCENT AVERAGE | MEASURED FLOW LAST YEAR* | MEASURED FLOW AVERAGE |
|---|---|---|---|---|---|---|
| | NORTH FORK FLATHEAD RIVER | | | | | |
| 3555 | Columbia Falls (near) | May-Sept | 1590 | 91 | 1894 | 1749 |
| | | May-July | 1435 | 91 | 1754 | 1576 |
| | | May-June | 1182 | 91 | 1569 | 1298 |
| | MIDDLE FORK FLATHEAD R. | | | | | |
| 3585 | West Glacier (near) | May-Sept | 1680 | 99 | 1689 | 1687 |
| | | May-July | 1542 | 99 | 1585 | 1553 |
| | | May-June | 1271 | 98 | 1415 | 1286 |
| | SOUTH FORK FLATHEAD RIVER | | | | | |
| 3625 | Columbia Falls (nr)(17) | May-Sept | 2040 | 101 | 2024 | 2015 |
| | | May-July | 1925 | 101 | 1934 | 1897 |
| | | May-June | 1614 | 100 | 1795 | 1617 |
| | FLATHEAD RIVER | | | | | |
| 3630 | Columbia Falls (at)(17) | May-Sept | 5433 | 97 | 5668 | 5608 |
| | | May-July | 4995 | 97 | 5329 | 5155 |
| | | May-June | 4147 | 96 | 4819 | 4302 |
| 3720 | Polson (near)(18) | May-Sept | 6452 | 98 | 6738 | 6605 |
| | | May-July | 5933 | 98 | 6326 | 6081 |
| | | May-June | 4921 | 98 | 5713 | 5039 |
| | SWAN RIVER | | | | | |
| 3700 | Big Fork (near) | May-Sept | 596 | 108 | 627 | 554 |
| | | May-July | 517 | 108 | 553 | 479 |
| | | May-June | 404 | 108 | 472 | 374 |

(17) Corrected for storage in Hungry Horse Reservoir.
(18) Corrected for storage in Hungry Horse Reservoir and Flathead Lake.

*PROVISIONAL DATA FURNISHED BY U. S. GEOLOGICAL SURVEY

# RESERVOIR STORAGE DATA

AS OF APRIL 30, 1962

(1000 Acre Feet)

| NO. | RESERVOIR | USABLE CAPACITY | THIS YEAR | LAST YEAR | AVERAGE |
|---|---|---|---|---|---|
| 3620 | Hungry Horse | 3428.0 | 2321.0 | 2213.0 | 2048.0 |
| 3710 | Flathead | 1791.0 | 1119.0 | 1276.0 | 936.0 |
| 3757 | Camas (4) | 45.2 | 34.2 | 31.6 | 30.6 |
| 3800 | Mission Valley (8) | 100.3 | 41.2 | 37.1 | 46.8 |

NOTE: ALL AVERAGES BASED ON 1943-1957 (15 YEAR PERIOD)

# SNOW SURVEY DATA

## AS OF MAY 1, 1962

(Inches)

| SNOW COURSE | | | CURRENT DATA | | | PAST RECORD | |
|---|---|---|---|---|---|---|---|
| | | | | | | WATER CONTENT | |
| NO. | NAME | ELEVATION | DATE OF SURVEY | SNOW DEPTH | WATER CONTENT | LAST YEAR | AVERAGE |
| 13B14A | Basin Creek | 5000 | 5/4 | 0 | 0 | 0 | 1.8* |
| 14B3 | Bassoo Peak | 5150 | 4/26 | 13 | 5.3 | 9.4 | - |
| 13B3 | Big Creek | 6750 | 5/1 | 99 | 49.0 | 56.4 | 48.4* |
| 14A4 | Brush Creek | 5000 | 4/23 | 22 | 8.4 | 12.6 | 10.5* |
| 13A17 | Camp Misery | 6400 | 4/26 | 103 | 43.9 | - | - |
| 13A2M | Desert Mountain | 5600 | 4/27 | 30 | 12.2 | 14.6 | 13.0 |
| 13B4 | Fatty Creek | 5500 | 5/1 | 46 | 18.6 | - | - |
| Can. 10 | Fernie | 3500 | 4/30 | 0 | 0 | 2.3 | 2.7* |
| 14A9 | Griffin Creek Divide | 5150 | 4/27 | 13 | 5.1 | 8.5 | - |
| 14A3 | Hell Roaring Divide | 5770 | 5/3 | 62 | 28.1 | 35.1 | 28.7 |
| 13B13A | Holbrook | 4530 | 5/4 | 0 | 0 | 1.6 | 1.2* |
| 13A3 | Iceberg Lake #3 | 5600 | 5/2 | 48 | 22.8 | 37.4 | 27.1 |
| 13A14 | Josephine Lower #9 | 4900 | 5/1 | 40 | 15.2 | 17.7 | 17.1* |
| 14A5 | Logan Creek | 4300 | 4/23 | 5 | 2.0 | 3.2 | 2.7 |
| 13A5M | Marias Pass | 5250 | 4/30 | 36 | 14.7 | 16.4 | 15.7 |
| 13A7 | Mount Allen #7 | 5700 | 5/1 | 101 | 40.4 | 59.2 | 47.3 |
| Can. 10A | New Fernie | 4100 | 4/30 | 10 | 3.9 | 10.2 | 6.7* |
| 13B7 | North Fork Jocko | 6330 | 5/2 | 103 | 48.8 | 55.6 | 44.7* |
| 13A6 | Piegan Pass #6 | 5500 | 5/1 | 82 | 34.7 | 48.0 | 38.4 |
| 13A8 | Ptarmigan #8 | 5800 | 5/2 | 70 | 30.7 | 47.6 | 37.8 |
| 13B2 | Spotted Bear Mt. | 7000 | 5/1 | 20 | 7.5 | 12.2 | 12.6* |
| 13A10 | Strawberry Lake | 6500 | 5/4 | 69 | 34.0 | 48.0 | 40.0* |
| 13B1 | Trinkus Lake | 6500 | 5/4 | 89 | 43.6 | 44.6 | 41.4* |
| 13A12M | Trout Lake | 3600 | 4/30 | 16 | 3.5 | 1.4 | 8.2* |
| 14B1 | T. V. Mountain | 6800 | 4/27 | 39 | 17.8 | 20.4 | 21.0* |
| 13B11 | Twin Creeks | 3580 | 4/30 | 0 | 0 | 0 | 0.8 |
| 13B5 | Upper Holland Lake | 7000 | 5/4 | 78 | 37.8 | 37.1 | 36.8 |
| 14A7 | Weasel Divide | 5450 | 4/24 | 72 | 30.5 | 41.0 | 34.7* |

NOTE: ALL AVERAGES BASED ON 1943-1957 (15 YEAR PERIOD). *ADJUSTED AVERAGE

# WATER SUPPLY OUTLOOK

## LOWER CLARK FORK RIVER BASIN

## MONTANA

AS OF:

MAY 1, 1962

U. S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE

The water supply outlook for the remainder of the spring and summer is good.

Low elevation snow is below average while higher elevations still show near average to above average snowpack. May 1 snow survey measurements are about 10 percent less than last year at this time and 90 percent of the 15-year average.

As a result of warm weather, streamflow during April has been above average. Streamflow for the remainder of the spring and summer is expected to be slightly below average and more than last year.

Soils in the mountain watershed areas are saturated.

*Report Prepared by*

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THE CONSERVATION OF WATER BEGINS WITH THE SNOW SURVEY



USDA SCS LINCOLN NEBR 1960

5,L-16,506.1

USDA SCS-LINCOLN, NEBR. 1960

# WATER SUPPLY FORECASTS

AS OF MAY 1, 1962

WATERSHED III
Lower Clark Fork
(1000 Acre Feet)

| NO. | RIVER AND FORECAST POINT | FORECAST PERIOD | FORECAST THIS YEAR | PERCENT AVERAGE | MEASURED FLOW LAST YEAR* | MEASURED FLOW AVERAGE |
|---|---|---|---|---|---|---|
| | BLACKFOOT RIVER | | | | | |
| 3400 | Bonner (near) | May-Sept | 879 | 100 | 707 | 879 |
| | | May-July | 786 | 100 | 638 | 783 |
| | | May-June | 647 | 99 | 568 | 655 |
| | BITTERROOT RIVER | | | | | |
| 3528 | Missoula (near)(16) | May-Sept | 1330 | 96 | 1000 | 1379 |
| | | May-July | 1223 | 96 | 923 | 1272 |
| | | May-June | 1024 | 96 | 869 | 1066 |
| | CLARK FORK RIVER | | | | | |
| 3404 | Milltown (above)(14) | May-Sept | 644 | 92 | 418 | 698 |
| | | May-July | 552 | 92 | 347 | 600 |
| | | May-June | 452 | 92 | 298 | 492 |
| 3405 | Missoula (above) | May-Sept | 1523 | 97 | 1125 | 1577 |
| | | May-July | 1338 | 97 | 984 | 1383 |
| | | May-June | 1099 | 96 | 866 | 1147 |
| 3530 | Missoula (below) | May-Sept | 2853 | 97 | 2125 | 2950 |
| | | May-July | 2561 | 97 | 1907 | 2648 |
| | | May-June | 2123 | 97 | 1735 | 2200 |
| 3545 | St. Regis (at) | May-Sept | 3853 | 97 | 3070 | 3948 |
| | | May-July | 3427 | 97 | 2764 | 3540 |
| | | May-June | 2869 | 97 | 2489 | 2950 |
| 3890 | Plains (near)(18) | May-Sept | 10683 | 98 | 10276 | 10837 |
| | | May-July | 9580 | 98 | 9514 | 9816 |
| | | May-June | 7927 | 98 | 8591 | 8125 |
| 3920 | Whitehorse Rapids (at)(18) | May-Sept | 11940 | 98 | - | 12144 |
| | | May-July | 10510 | 98 | - | 10241 |
| | | May-June | 8825 | 98 | - | 9027 |

(14) Difference in observed flow, Clark Fork above Missoula & Blackfoot at Bonner.
(16) Difference in observed flow, Clark Fork above and below Missoula.
(18) Corrected for storage in Flathead Lake & Hungry Horse Reservoir.

*PROVISIONAL DATA FURNISHED BY U.S. GEOLOGICAL SURVEY

NOTE: ALL AVERAGES BASED ON 1943-1957 (15 YEAR PERIOD).

# SNOW SURVEY DATA

AS OF MAY 1, 1962

(Inches)

| SNOW COURSE | | | CURRENT DATA | | | PAST RECORD | |
|---|---|---|---|---|---|---|---|
| | | | | | | WATER CONTENT | |
| NO. | NAME | ELEVATION | DATE OF SURVEY | SNOW DEPTH | WATER CONTENT | LAST YEAR | AVERAGE |
| 15B11 | Baree Creek | 5500 | 5/2 | 83 | 41.8 | 53.0 | 48.2* |
| 13B10 | Coyote Hill | 4200 | 4/30 | 7 | 3.2 | 2.7 | 2.1* |
| 15B10 | Freezeout Summit | 6800 | Discontinued | | | 38.6 | 35.7* |
| 15C1 | Hoodoo Creek | 6200 | 4/26 | 99 | 44.5 | 56.2 | 46.9* |
| 14C5 | Lolo Pass | 5230 | 4/24 | 71 | 33.7 | 28.0 | 29.7 |
| 15B2 | Lookout | 5250 | 4/26 | 68 | 30.8 | 37.8 | 34.0* |
| 13C8 | Lubrecht Forest #6 | 4040 | 4/27 | 0 | 0 | 0 | 0.1* |
| 13B7 | North Fork Jocko | 6330 | 5/2 | 103 | 48.8 | 55.6 | 44.7* |
| 13C1 | Stuart Mountain | 7400 | 4/28 | 71 | 30.0 | 33.3 | 30.1 |
| 14B1 | T. V. Mountain | 6800 | 4/27 | 39 | 17.8 | 20.4 | 21.0* |

NOTE: ALL AVERAGES BASED ON 1943-1957 (15 YEAR PERIOD). *ADJUSTED AVERAGE

# WATER SUPPLY OUTLOOK

## UPPER CLARK FORK RIVER BASIN

## MONTANA

AS OF:

MAY 1, 1962

U. S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE

The water supply outlook for the coming irrigation season is good for the early months with possibility of only a fair to poor supply during the latter part. Continuation of above average temperatures and deficient precipitation could result in water shortages later in the irrigation season.

Snow surveys made near the first of May show a decrease in water over last month. May 1 measurements are about 35 percent less than last year and 66 percent of the 15-year average.

Streamflow during April was above average. During the next 5 months, streamflow is forecast to be near average in the Blackfoot drainage and 5 to 10 percent below average for the Clark Fork drainage.

Most of the water will flow during May and June.

Soils in the mountain watershed areas are generally saturated while valley soils are drying.

*Report Prepared by*

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THE CONSERVATION OF WATER BEGINS WITH THE SNOW SURVEY



USDA SCS LINCOLN NEBR 1960

5,L-16,396.1

5,L-16,396

USDA SCS LINCOLN NEBR 1960

# WATER SUPPLY FORECASTS

AS OF MAY 1, 1962

WATERSHED IV
Upper Clark Fork

(1000 Acre Feet)

| NO. | RIVER AND FORECAST POINT | FORECAST PERIOD | FORECAST THIS YEAR | PERCENT AVERAGE | MEASURED FLOW LAST YEAR* | MEASURED FLOW AVERAGE |
|---|---|---|---|---|---|---|
| | FLINT CREEK | | | | | |
| 3295 | Maxville (at) | May-Sept | 36.7 | 95 | 27.3 | 38.7 |
| | | May-July | 26.1 | 95 | 18.5 | 27.6 |
| | BOULDER CREEK | | | | | |
| 3300 | Maxville (at) | May-Sept | 23.6 | 89 | 14.3 | 26.4 |
| | | May-July | 21.1 | 88 | 13.1 | 24.0 |
| | MIDDLE FORK ROCK CREEK | | | | | |
| 3320 | Philipsburg (near) | May-Sept | 69.3 | 92 | 55.3 | 75.6 |
| | | May-July | 62.1 | 92 | 50.4 | 67.6 |
| | BLACKFOOT RIVER | | | | | |
| 3400 | Bonner (near) | May-Sept | 879 | 100 | 707 | 879 |
| | | May-July | 786 | 100 | 638 | 783 |
| | | May-June | 647 | 99 | 568 | 655 |
| | CLARK FORK RIVER | | | | | |
| 3404 | Milltown (above)(14) | May-Sept | 644 | 92 | 418 | 698 |
| | | May-July | 552 | 92 | 347 | 600 |
| | | May-June | 452 | 92 | 298 | 492 |

(14) Difference in observed flow, Clark Fork above Missoula & Blackfoot at Bonner.

*PROVISIONAL DATA FURNISHED BY U. S. GEOLOGICAL SURVEY

# RESERVOIR STORAGE DATA

AS OF APRIL 30, 1962

(1000 Acre Feet)

| NO. | RESERVOIR | USABLE CAPACITY | THIS YEAR | LAST YEAR | AVERAGE |
|---|---|---|---|---|---|
| 3250 | Georgetown Lake | 31.0 | 20.9 | 24.0 | 21.2 |

NOTE: ALL AVERAGES BASED ON 1943-1957 (15 YEAR PERIOD)

# SNOW SURVEY DATA

## AS OF MAY 1, 1962

(Inches)

| SNOW COURSE | | | CURRENT DATA | | | PAST RECORD | |
|---|---|---|---|---|---|---|---|
| | | | | | | WATER CONTENT | |
| NO. | NAME | ELEVATION | DATE OF SURVEY | SNOW DEPTH | WATER CONTENT | LAST YEAR | AVERAGE |
| 13C16 | Ambrose | 6475 | 4/24 | 23 | 9.0 | 13.9 | - |
| 13C13 | Black Pine | 7100 | 4/24 | 24 | 9.0 | - | - |
| 12C5 | Chessman Reservoir | 6200 | 4/30 | 0 | 0 | 1.5 | 2.6 |
| 13C11 | Fred Burr Pass | 8000 | 4/23 | 52 | 22.6 | - | - |
| 13C8 | Lubrecht Forest #6 | 4040 | 4/27 | 0 | 0 | 0 | 0.1* |
| 12D1 | Pipestone Pass | 7200 | 5/1 | 4 | 1.1 | 5.0 | 3.9* |
| 13C12 | Red Lion | 7100 | 4/23 | 38 | 13.8 | - | - |
| 13C3 | Skalkaho Summit | 7259 | 4/24 | 55 | 24.7 | - | 25.8* |
| 13C2 | Slide Rock Mt. | 7100 | 4/25 | 34 | 13.1 | - | 14.0* |
| 12C1 | Stemple Pass | 6900 | 4/30 | 23 | 7.3 | 8.3 | 8.7 |
| 13C7 | Storm Lake | 7780 | 4/26 | 33 | 11.2 | 15.3 | 16.3* |
| 12C2 | Tenmile, Lower | 6250 | 4/29 | 3 | 0.8 | 3.6 | 3.6 |
| 12C3 | Tenmile, Middle | 6800 | 4/28 | 20 | 6.6 | 10.4 | 9.0 |
| 12C4 | Tenmile, Upper | 8000 | 4/28 | 32 | 10.7 | 14.0 | 12.7 |

NOTE: ALL AVERAGES BASED ON 1943-1957 (15 YEAR PERIOD). *ADJUSTED AVERAGE

# WATER SUPPLY OUTLOOK

## BITTERROOT RIVER BASIN

## MONTANA

AS OF:

MAY 1, 1962

U. S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE

Water supply outlook for the coming irrigation season is good for the early months with possibility of only a fair or poor supply during the latter part. Continuation of above average temperatures and deficient precipitation could result in water shortages later in the irrigation season.

Snow surveys made near the first of May show a decrease in water over last month. May 1 measurements are about 15 percent less than last year and 87 percent of the 15-year average.

Streamflow during April was above average. Streamflow during the next 5 months is forecast to be 5 to 10 percent below average with most of the runoff occurring during May and June.

Mountain soils are generally saturated while valley soils are drying.

*Report Prepared by*

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THE CONSERVATION OF WATER BEGINS WITH THE SNOW SURVEY



USDA SCS LINCOLN NEBR 1960

5,L-16,518.1

USDA-SCS-LINCOLN NEBR. 1960



5,L-16,518.2

# WATER SUPPLY FORECASTS

WATERSHED V - BITTERROOT

AS OF MAY 1, 1962

(1000 Acre Feet)

| NO. | RIVER AND FORECAST POINT | FORECAST PERIOD | FORECAST THIS YEAR | PERCENT AVERAGE | MEASURED FLOW LAST YEAR* | MEASURED FLOW AVERAGE |
|---|---|---|---|---|---|---|
| | WEST FORK BITTERROOT RIVER | | | | | |
| 3425 | Conner (near)(15) | May-Sept | 145 | 95 | - | 153 |
| | | May-July | 133 | 94 | - | 141 |
| | BITTERROOT RIVER | | | | | |
| 3440 | Darby (near) | May-Sept | 487 | 94 | 369 | 519 |
| | | May-July | 447 | 93 | 333 | 479 |
| | | May-June | 382 | 93 | 306 | 409 |
| 3528 | Missoula (near)(16) | May-Sept | 1330 | 96 | 1000 | 1379 |
| | | May-July | 1223 | 96 | 923 | 1272 |
| | | May-June | 1024 | 96 | 869 | 1066 |
| | BLODGETT CREEK | | | | | |
| 3475 | Corvallis (near) | May-Sept | 39.8 | 95 | 35.1 | 41.9 |
| | | May-July | 37.7 | 95 | 33.7 | 39.6 |
| | BURNT FORK CREEK | | | | | |
| 3510 | Stevensville (near) | May-Sept | 26.4 | 92 | 19.4 | 28.6 |
| | | May-July | 23.2 | 92 | 17.2 | 25.3 |

10.2
10.2

(15) Corrected for storage in West Fork Bitterroot River Reservoir.
(16) Difference in observed flow, Clark Fork above and below Missoula.

*PROVISIONAL DATA FURNISHED BY U. S. GEOLOGICAL SURVEY

# RESERVOIR STORAGE DATA

AS OF APRIL 30, 1962

(1000 Acre Feet)

| NO. | RESERVOIR | USABLE CAPACITY | THIS YEAR | LAST YEAR | AVERAGE |
|---|---|---|---|---|---|
| 3445 | Como Lake | 34.8 | 24.0 | - | 16.5 |

NOTE: ALL AVERAGES BASED ON 1943-1957 (15 YEAR PERIOD)

# SNOW SURVEY DATA

## AS OF MAY 1, 1962

(Inches)

| SNOW COURSE | | | CURRENT DATA | | | PAST RECORD | |
|---|---|---|---|---|---|---|---|
| | | | | | | WATER CONTENT | |
| NO. | NAME | ELEVATION | DATE OF SURVEY | SNOW DEPTH | WATER CONTENT | LAST YEAR | AVERAGE |
| 13C16 | Ambrose | 6475 | 4/24 | 23 | 9.0 | 13.9 | - |
| 13D2 | Gibbons Pass | 7100 | 4/27 | 36 | 16.2 | 20.4 | 23.0 |
| 14C5 | Lolo Pass | 5230 | 4/24 | 71 | 33.7 | 28.0 | 29.7 |
| 14C7 | Lost Horse | 5940 | 4/25 | 64 | 29.8 | 36.2 | - |
| 14D2 | Nez Perce Camp | 5580 | 4/26 | 13 | 5.6 | 10.1 | 8.3* |
| 14D1 | Nez Perce Pass | 6575 | 4/26 | 15 | 6.8 | 11.8 | 12.6 |
| 13C3 | Skalkaho Summit | 7259 | 4/24 | 55 | 24.7 | - | 25.8* |
| 14C8 | Twin Lakes | 6510 | 4/25 | 88 | 43.7 | 47.2 | - |

NOTE: ALL AVERAGES BASED ON 1943-1957 (15 YEAR PERIOD). *ADJUSTED AVERAGE

# WATER SUPPLY OUTLOOK

## MARIAS, TETON, & SUN RIVER BASINS

## MONTANA

AS OF:

MAY 1, 1962

U. S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE

The water supply outlook for the coming irrigation season is good for the early months with a fair to poor outlook for later months. Continuation of above average temperatures and deficient precipitation could result in some shortage of irrigation water during the latter part of the irrigation season.

Snow survey measurements made near the first of May are about 30 percent less than last year and 87 percent of the 15-year average.

Streamflow during April was above average. For the next 5 months streamflow is expected to be 10 to 15 percent below average with most of the runoff occurring during May and June.

Reservoir storage is near average for this time of year.

*Report Prepared by*

A. R. CODD AND P. E. FARNES
U. S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE
BOX 855 BOZEMAN, MONTANA

THE CONSERVATION OF WATER BEGINS WITH THE SNOW SURVEY



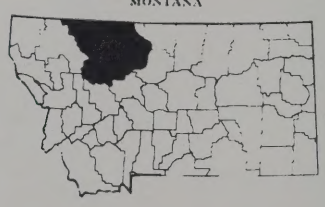
USDA SCS LINCOLN NEBR 1960

5,L-16,502.1

LEGEND

- 13E2 — SNOW SURVEY COURSE
- 12D2M — SOIL MOISTURE STATION
- 13B3A — AERIAL MARKER AT SNOW COURSE
- 0125 — STREAM GAGING STATION
- DRAINAGE
- S C D BOUNDARY
- WATERSHED BOUNDARY
- HIGHWAY
- TOWN
- COUNTY BOUNDARY
- STATE BOUNDARY

VI




SCALE 10 0 10 20 30 40 MILES



5,L-16,502.2

# WATER SUPPLY FORECASTS

AS OF MAY 1, 1962

WATERSHED VI
Sun, Marias & Teton
(1000 Acre Feet)

| NO. | RIVER AND FORECAST POINT | FORECAST PERIOD | FORECAST THIS YEAR | PERCENT AVERAGE | MEASURED FLOW LAST YEAR* | MEASURED FLOW AVERAGE |
|---|---|---|---|---|---|---|
| | NORTH FORK SUN RIVER | | | | | |
| 0785 | Augusta (near) | May-Sept | 200 | 89 | - | 225 |
| | | May-July | 180 | 87 | - | 207 |
| | SUN RIVER | | | | | |
| 0786 | Gibson Dam (at)(10) | May-Sept | 492 | 89 | 458 | 551 |
| | | May-July | 445 | 89 | 424 | 501 |
| | MARIAS RIVER | | | | | |
| 0995 | Shelby (near) | May-Sept | 495 | 85 | 358 | 581 |
| | | May-July | 446 | 85 | 337 | 527 |

(10) Corrected for storage in Gibson Reservoir and diversions.

*PROVISIONAL DATA FURNISHED BY U. S. GEOLOGICAL SURVEY

# RESERVOIR STORAGE DATA

AS OF APRIL 30, 1962

(1000 Acre Feet)

| NO. | RESERVOIR | USABLE CAPACITY | THIS YEAR | LAST YEAR | AVERAGE |
|---|---|---|---|---|---|
| 1013 | Tiber | 1316.0 | 648.1 | 662.6 | 656.9 |
| 0955 | Lake Francis | 112.0 | 82.5 | 80.0 | 99.9 |
| 0805 | Pishkun | 32.0 | 25.6 | 26.4 | 20.7 |
| 0795 | Gibson | 105.0 | 74.4 | 34.1 | 70.6 |
| 0820 | Willow Creek | 32.3 | 14.3 | 25.6 | 21.1 |
| 0940 | Swift | 30.0 | 24.5 | 18.7 | 27.3 |

NOTE: ALL AVERAGES BASED ON 1943-1957 (15 YEAR PERIOD)

# SNOW SURVEY DATA

AS OF MAY 1, 1962

(Inches)

| SNOW COURSE | | | CURRENT DATA | | | PAST RECORD | |
|---|---|---|---|---|---|---|---|
| | | | | | | WATER CONTENT | |
| NO. | NAME | ELEVATION | DATE OF SURVEY | SNOW DEPTH | WATER CONTENT | LAST YEAR | AVERAGE |
| 12B7 | Goat Mountain | 7000 | 4/30 | 26 | 9.3 | 11.0 | 9.2* |
| 13A3 | Iceberg Lake #3 | 5600 | 5/2 | 48 | 22.8 | 37.4 | 27.1 |
| 13A14 | Josephine Lower #9 | 4900 | 5/1 | 40 | 15.2 | 17.7 | 17.1* |
| 13A5M | Marias Pass | 5250 | 4/30 | 36 | 14.7 | 16.4 | 15.7 |
| 13A7 | Mount Allen #7 | 5700 | 5/1 | 101 | 40.4 | 59.2 | 47.3 |
| 13A6 | Piegan Pass #6 | 5500 | 5/1 | 82 | 34.7 | 48.0 | 38.4 |
| 13A8 | Ptarmigan #8 | 5800 | 5/2 | 70 | 30.7 | 47.6 | 37.8 |

NOTE: ALL AVERAGES BASED ON 1943-1957 (15 YEAR PERIOD). *ADJUSTED AVERAGE

# WATER SUPPLY OUTLOOK

## MISSOURI RIVER (MAIN STEM) BASIN

## MONTANA

AS OF:

MAY 1, 1962

U. S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE

The water supply outlook for streams tributary to the Missouri River is good during the first part of the irrigation season with possibility of a deficient supply later in the irrigation season.

Snow survey measurements made near the first of May are about 30 percent less than last May and 72 percent of the 15-year average.

Streamflow during April was above average. For the next 5 months streamflow is expected to be 15 to 25 percent below average with most of the runoff occurring during May and June.

Mountain soils are generally saturated while valley soils are drying rapidly.

*Report Prepared by*

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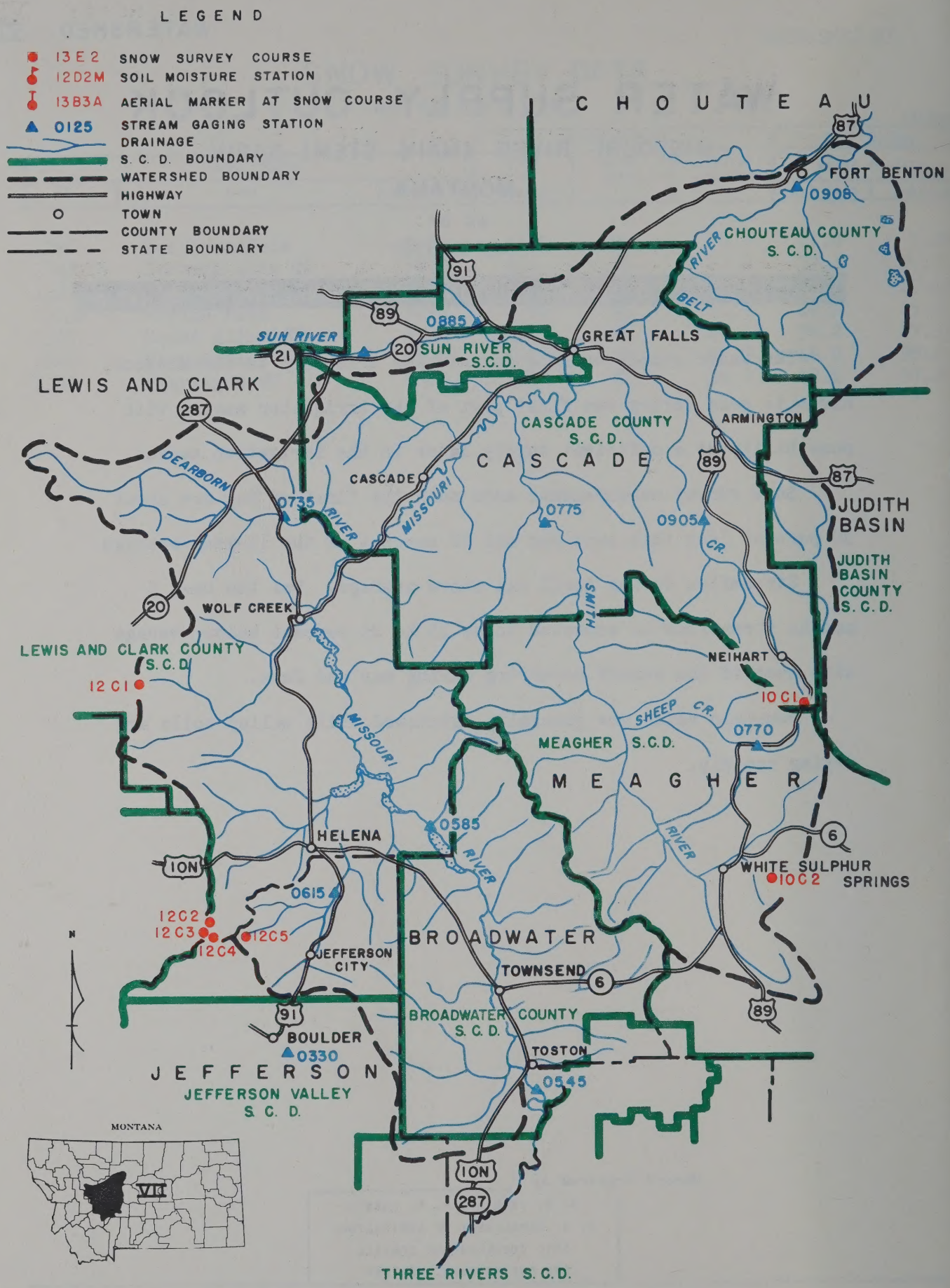
THE CONSERVATION OF WATER BEGINS WITH THE SNOW SURVEY



USDA-SCS-LINCOLN NEBR 1960

5,L-16,400.1




USDA-SCS-LINCOLN, NEBR 1960



5,L-16,400.2

# WATER SUPPLY FORECASTS

AS OF MAY 1, 1962

WATERSHED VII
Missouri Main Stem
(1000 Acre Feet)

| NO. | RIVER AND FORECAST POINT | FORECAST PERIOD | FORECAST THIS YEAR | PERCENT AVERAGE | MEASURED FLOW LAST YEAR* | MEASURED FLOW AVERAGE |
|---|---|---|---|---|---|---|
| | MISSOURI RIVER | | | | | |
| 0545 | Toston (at)(3) | May-Sept | 1966 | 98 | 932 | 2006 |
| | | May-July | 1654 | 98 | 716 | 1693 |
| 0908 | Fort Benton (at)(5) | May-Sept | 2867 | 93 | | 3098 |
| | | May-July | 2385 | 93 | | 2575 |
| | PRICKLY PEAR CREEK | | | | | |
| 0615 | Clancy (near) | May-Sept | 16.2 | 78 | 8.2 | 20.7 |
| | | May-July | 13.8 | 78 | 6.8 | 17.6 |

(3) Corrected for storage in Hebgen and Ennis Lakes.
(5) Corrected for storage in Canyon Ferry Reservoir.

*PROVISIONAL DATA FURNISHED BY U. S. GEOLOGICAL SURVEY

# RESERVOIR STORAGE DATA

AS OF APRIL 30, 1962

(1000 Acre Feet)

| NO. | RESERVOIR | USABLE CAPACITY | THIS YEAR | LAST YEAR | AVERAGE |
|---|---|---|---|---|---|
| 0585 | Canyon Ferry | 2043.0 | 1419.0 | 1432.0 | 1628.0 |
| 0645 | Lake Helena | 10.4 | 8.4 | 10.0 | 6.1 |
| 0660 | Holter Lake | 81.9 | 74.4 | 74.9 | 57.1 |
| 0650 | Hauser Lk. + Lk. Helena | 62.5 | 56.2 | 60.7 | 46.9 |

NOTE: ALL AVERAGES BASED ON 1943-1957 (15 YEAR PERIOD)

# SNOW SURVEY DATA

## AS OF MAY 1, 1962

(inches)

| SNOW COURSE | | | CURRENT DATA | | | PAST RECORD | |
|---|---|---|---|---|---|---|---|
| | | | | | | WATER CONTENT | |
| NO. | NAME | ELEVATION | DATE OF SURVEY | SNOW DEPTH | WATER CONTENT | LAST YEAR | AVERAGE |
| 12C5 | Chessman Reservoir | 6200 | 4/30 | 0 | 0 | 1.5 | 2.6 |
| 10C1 | Kings Hill | 7950 | 4/27 | 32 | 10.9 | 12.4 | 14.1* |
| 12C1 | Stemple Pass | 6900 | 4/30 | 23 | 7.3 | 8.3 | 8.7 |
| 12C2 | Tenmile, Lower | 6250 | 4/29 | 3 | 0.8 | 3.6 | 3.6 |
| 12C3 | Tenmile, Middle | 6800 | 4/28 | 20 | 6.6 | 10.4 | 9.0 |
| 12C4 | Tenmile, Upper | 8000 | 4/28 | 32 | 10.7 | 14.0 | 12.7 |

NOTE: ALL AVERAGES BASED ON 1943-1957 (15 YEAR PERIOD). *ADJUSTED AVERAGE

# WATER SUPPLY OUTLOOK

## BEAVERHEAD, & JEFFERSON RIVER BASINS

## MONTANA

AS OF:

MAY 1, 1962

U. S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE

The water supply outlook for this area is good for the early part of the irrigation season with only a fair to poor supply expected late in the season. Continuation of above average temperatures and deficient precipitation could result in a water shortage during the late season irrigation.

Snow survey measurements made near the first of May are 25 percent less than last May 1 and 70 percent of the 15-year average.

Streamflow during April has been above average. During the next 5 months streamflow is expected to be 10 to 15 percent below average. Most of this runoff will occur during May and June.

Mountain soils are generally saturated while valley soils are drying.

*Report Prepared by*

A. R. CODD AND P. E. FARNES
U. S. DEPARTMENT OF AGRICULTURE
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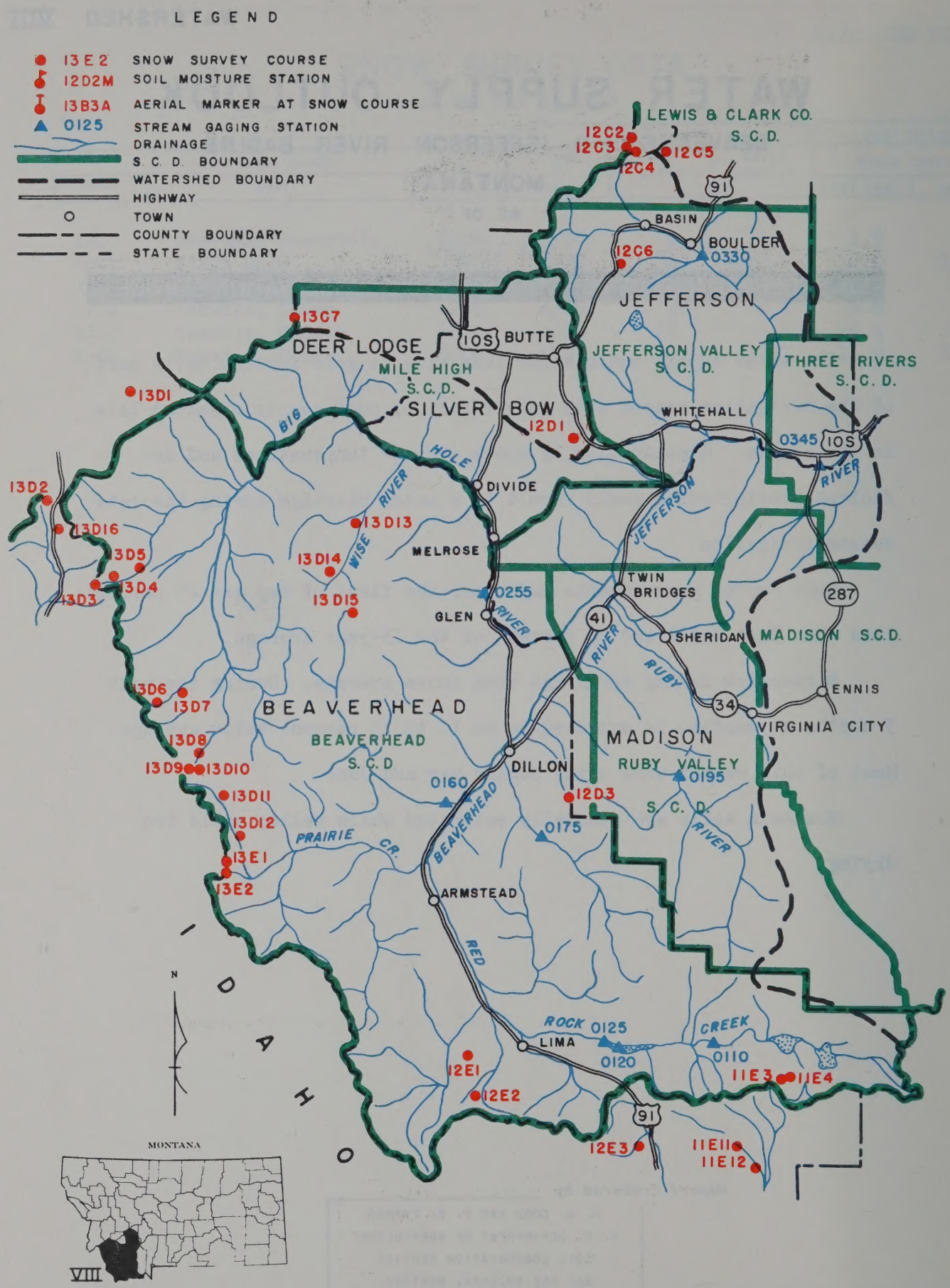
BOX 855 BOZEMAN, MONTANA

THE CONSERVATION OF WATER BEGINS WITH THE SNOW SURVEY



USDA SCS LINCOLN NEBR 1960

5,L-16,394.1






5,L-16,394.2

USDA SCS LINCOLN NEBR 1960

# WATER SUPPLY FORECASTS

AS OF MAY 1, 1962

WATERSHED VIII
Beaverhead & Jefferson

(1000 Acre Feet)

| NO. | RIVER AND FORECAST POINT | FORECAST PERIOD | FORECAST THIS YEAR | PERCENT AVERAGE | MEASURED FLOW LAST YEAR* | MEASURED FLOW AVERAGE |
|---|---|---|---|---|---|---|
| | RED ROCK RIVER | | | | | |
| 0110 | Kennedy Ranch (at) | May-Sept | 50.6 | 92 | 20.4 | 54.9 |
| | | May-July | 45.0 | 92 | 17.0 | 49.1 |
| 0125 | Monida (near)(1) | May-Sept | 56.3 | 91 | 21.2 | 62.3 |
| | | May-July | 52.6 | 91 | 14.1 | 58.1 |
| | BIG HOLE RIVER | | | | | |
| 0255 | Melrose (near) | May-Sept | 557 | 83 | 356 | 668 |
| | | May-July | 506 | 83 | 327 | 611 |
| | BOULDER RIVER | | | | | |
| 0330 | Boulder (near) | May-Sept | 64.1 | 92 | 42.6 | 69.4 |
| | | May-July | 60.6 | 92 | 40.5 | 66.0 |
| | JEFFERSON RIVER | | | | | |
| 0345 | Sappington (at) | May-Sept | 764 | 84 | 407 | 913 |
| | | May-July | 665 | 83 | 356 | 798 |

(1) Corrected for storage in Lima Reservoir.

*PROVISIONAL DATA FURNISHED BY U. S. GEOLOGICAL SURVEY

# RESERVOIR STORAGE DATA

AS OF APRIL 30, 1962

(1000 Acre Feet)

| NO. | RESERVOIR | USABLE CAPACITY | THIS YEAR | LAST YEAR | AVERAGE |
|---|---|---|---|---|---|
| 0120 | Lima | 84.0 | 50.6 | 25.9 | 55.9 |
| 0205 | Ruby | 38.8 | N.R. | 31.6 | 27.0 |

NOTE: ALL AVERAGES BASED ON 1943-1957 (15 YEAR PERIOD)

# SNOW SURVEY DATA

AS OF MAY 1, 1962

(Inches)

| SNOW COURSE | | | CURRENT DATA | | | PAST RECORD | |
|---|---|---|---|---|---|---|---|
| | | | | | | WATER CONTENT | |
| NO. | NAME | ELEVATION | DATE OF SURVEY | SNOW DEPTH | WATER CONTENT | LAST YEAR | AVERAGE |
| 12C5 | Chessman Reservoir | 6200 | 4/30 | 0 | 0 | 1.5 | 2.6 |
| 13D15 | Elk Horn | 8450 | 4/28 | 19 | 5.5 | 6.9 | 8.7* |
| 13D2 | Gibbons Pass | 7100 | 4/27 | 36 | 16.2 | 20.4 | 23.0 |
| 11E4 | Lakeview Canyon | 6930 | 4/27 | 33 | 9.6 | 7.8 | 9.6* |
| 11E3 | Lakeview Ridge | 7400 | 4/27 | 20 | 6.4 | 6.0 | 7.6* |
| 12D1 | Pipestone Pass | 7200 | 5/1 | 4 | 1.1 | 5.0 | 3.9* |
| 13C7 | Storm Lake | 7780 | 4/26 | 33 | 11.2 | 15.3 | 16.3* |
| 12C2 | Tenmile, Lower | 6250 | 4/29 | 3 | 0.8 | 3.6 | 3.6 |
| 12C3 | Tenmile, Middle | 6800 | 4/28 | 20 | 6.6 | 10.4 | 9.0 |
| 12C4 | Tenmile, Upper | 8000 | 4/28 | 32 | 10.7 | 14.0 | 12.7 |

NOTE: ALL AVERAGES BASED ON 1943-1957 (15 YEAR PERIOD). *ADJUSTED AVERAGE

# WATER SUPPLY OUTLOOK

## MADISON, & GALLATIN RIVER BASINS

## MONTANA

AS OF:

MAY 1, 1962

U. S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE

The water supply outlook for the coming irrigation season is good during the early part of the season with a possibility of only fair to poor supply later in the period.

Snow survey measurements made near the first of May are 15 percent less than last year and 91 percent of the 15-year average.

Streamflow during April has been above average. Streamflow for the next 5 months is expected to be about 5 percent above average in the Madison drainage and about 10 to 20 percent above average in the Gallatin drainage; however, continuation of warm temperatures will result in an early runoff and cause below average late season flows.

Mountain soils are generally saturated while valley soils are drying.

*Report Prepared by*

A. R. CODD AND P. E. FARNES
U. S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE
BOX 855 BOZEMAN, MONTANA

THE CONSERVATION OF WATER BEGINS WITH THE SNOW SURVEY



USDA-SCS-LINCOLN NEBR 1960

5,L-16,521.1

TOWNSEND
BROADWATER CO.
S. C. D.
MEAGHER S. C. D.
MEAGHER
RINGLING
BROADWATER
TOSTON
0545
JEFFERSON
JEFFERSON
0525
GALLATIN
PARK
S. C. D.
PARK
THREE FORKS
MANHATTAN
RIVERS
S. C. D.
THREE
SAPPINGTON
0345
BELGRADE
0480
BOZEMAN
11D2M
10D1
NORRIS
0410
0405
ENNIS LAKE
0500
0495
0435
10D3
GALLATIN
VALLEY
10D4
KARSTS
KAMP
S. C. D.
ENNIS
VIRGINIA CITY
MADISON
MADISON
CAMERON S. C. D.
MADISON
RUBY VALLEY S. C. D.
WYOMING
11E5
11E6
0385
0380
HEBGEN LAKE
11E7
WEST YELLOWSTONE
10E2
BEAVERHEAD
BEAVERHEAD S. C. D.
11E8
0375
11E9
MONTANA
IX
N
LEGEND
13E2 SNOW SURVEY COURSE
12D2M SOIL MOISTURE STATION
13B3A AERIAL MARKER AT SNOW COURSE
0125 STREAM GAGING STATION
DRAINAGE
S. C. D. BOUNDARY
WATERSHED BOUNDARY
HIGHWAY
TOWN
COUNTY BOUNDARY
STATE BOUNDARY
SCALE 10 0 10 20 MILES

# WATER SUPPLY FORECASTS

AS OF MAY 1, 1962

WATERSHED IX
Madison & Gallatin

(1000 Acre Feet)

| NO. | RIVER AND FORECAST POINT | FORECAST PERIOD | FORECAST THIS YEAR | PERCENT AVERAGE | MEASURED FLOW LAST YEAR* | MEASURED FLOW AVERAGE |
|---|---|---|---|---|---|---|
| | MADISON RIVER | | | | | |
| 0375 | West Yellowstone (at) | May-Sept | 197 | 105 | 144 | 187 |
| | | May-July | 142 | 105 | 99 | 136 |
| 0385 | Grayling (near)(2) | May-Sept | 407 | 104 | 285 | 389 |
| | | May-July | 317 | 106 | 198 | 298 |
| 0410 | McAllister (near)(3) | May-Sept | 668 | 101 | 440 | 659 |
| | | May-July | 526 | 102 | 311 | 516 |
| | GALLATIN RIVER | | | | | |
| 0435 | Gateway (near) | May-Sept | 503 | 116 | 310 | 431 |
| | | May-July | 426 | 116 | 246 | 367 |
| | EAST GALLATIN RIVER | | | | | |
| 0480 | Bozeman (at) | May-Sept | 41.1 | 110 | 16.8 | 37.2 |
| | | May-July | 34.6 | 110 | 12.7 | 31.5 |
| | HYALITE CREEK | | | | | |
| 0500 | Ranger Station (at)(4) | May-Sept | 36.2 | 109 | 22.6 | 33.2 |
| | | May-July | 30.4 | 108 | 18.9 | 28.2 |
| | GALLATIN RIVER | | | | | |
| 0525 | Logan (at) | May-Sept | 528 | 124 | 196 | 426 |
| | | May-July | 442 | 124 | 130 | 356 |

(2) Corrected for storage in Hebgen Lake.
(3) Corrected for storage in Hebgen and Ennis Lakes.
(4) Corrected for storage in Middle Creek Reservoir.

*PROVISIONAL DATA FURNISHED BY U. S. GEOLOGICAL SURVEY

# RESERVOIR STORAGE DATA

AS OF APRIL 30, 1962

(1000 Acre Feet)

| NO. | RESERVOIR | USABLE CAPACITY | THIS YEAR | LAST YEAR | AVERAGE |
|---|---|---|---|---|---|
| 0380 | Hebgen Lake | 345.0 | 154.3 | 182.4 | 212.1 |
| 0405 | Ennis Lake | 41.0 | 38.7 | 35.7 | 34.4 |
| 0500 | Middle Creek | 8.0 | 4.4 | 4.3 | 4.7 |

NOTE: ALL AVERAGES BASED ON 1943-1957 (15 YEAR PERIOD)

# SNOW SURVEY DATA

AS OF MAY 1, 1962

(Inches)

| SNOW COURSE | | | CURRENT DATA | | | PAST RECORD | |
|---|---|---|---|---|---|---|---|
| | | | | | | WATER CONTENT | |
| NO. | NAME | ELEVATION | DATE OF SURVEY | SNOW DEPTH | WATER CONTENT | LAST YEAR | AVERAGE |
| 10D4 | Devil's Slide | 8100 | 4/28 | 67 | 25.0 | 23.6 | 23.4 |
| 11E5 | Hebgen | 6550 | 4/26 | 8 | 2.4 | 4.9 | 3.9 |
| 10D3 | Hood Meadow | 6600 | 4/28 | 18 | 4.8 | 7.6 | 5.5 |
| 10E2 | Norris Basin | 7500 | 5/1 | 14 | 5.2 | 5.7 | 6.3* |
| 10D10 | Sacajawea | 6500 | 4/27 | 14 | 6.0 | 11.1 | - |
| 11E6 | Twenty-One Mile | 7150 | 4/26 | 29 | 11.4 | 16.4 | 14.5 |
| 11E7 | West Yellowstone | 6700 | 4/26 | 13 | 5.0 | 5.4 | 5.6 |

NOTE: ALL AVERAGES BASED ON 1943-1957 (15 YEAR PERIOD). *ADJUSTED AVERAGE

# WATER SUPPLY OUTLOOK

## JUDITH, & MUSSELSHELL RIVER BASINS

## MONTANA

AS OF:

MAY 1, 1962

U. S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE

Water supply for the coming irrigation season is good for the early months with a fair to poor supply anticipated for the latter part of the season. Continuation of present above average temperatures and deficient precipitation could result in a short water supply.

Snow surveys made at Kings Hill near the first of May showed the water content of the snow is 12 percent less than last year and 78 percent average.

Streamflow for the next 5 months is expected to be about 10 percent below the 15-year average. Most of the runoff will occur during May and June.

Mountain soils are generally saturated while valley soils are drying.

*Report Prepared by*

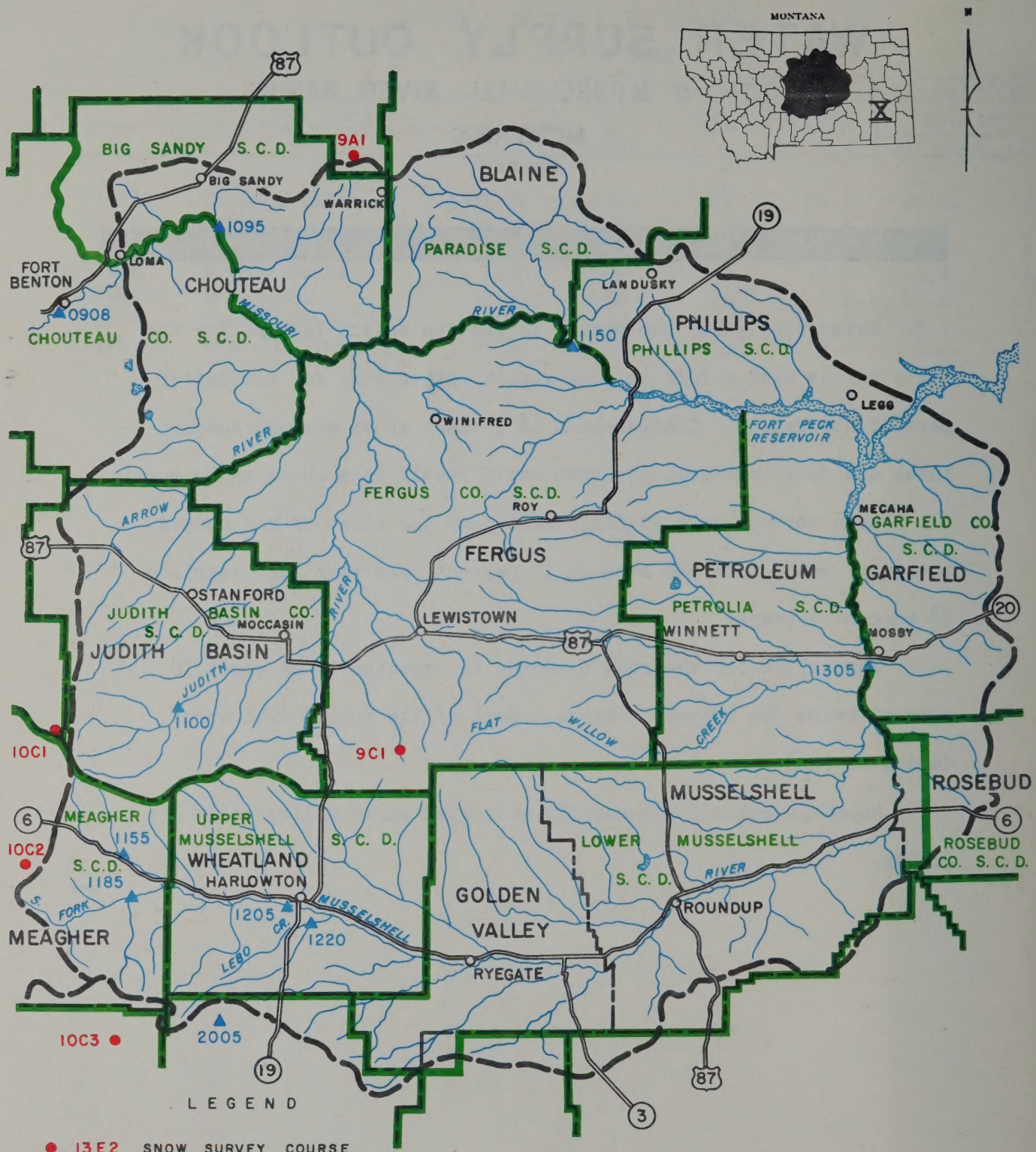
A. R. CODD AND P. E. FARNES
U. S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE
BOX 855 BOZEMAN, MONTANA

THE CONSERVATION OF WATER BEGINS WITH THE SNOW SURVEY



USDA-SCS-LINCOLN NEBR 1960

5,L-16,516.1


MONTANA
BIG SANDY S. C. D.
BIG SANDY
9A1
WARRICK
BLAINE
1095
PARADISE S. C. D.
FORT BENTON
LOMA
CHOUTEAU
LANDUSKY
0908
CHOUTEAU CO. S. C. D.
MISSOURI RIVER
1150
PHILLIPS
PHILLIPS S. C. D.
LEGG
WINIFRED
FORT PECK RESERVOIR
FERGUS CO. S. C. D.
ROY
MECAHA
GARFIELD CO. S. C. D.
ARROW
FERGUS
PETROLEUM
GARFIELD
STANFORD
JUDITH BASIN S. C. D.
MOCCASIN CO.
JUDITH BASIN
LEWISTOWN
PETROLIA S. C. D.
WINNETT
MOSBY
1305
JUDITH
1100
FLAT WILLOW CREEK
10C1
9C1
MUSSELSHELL
ROSEBUD
MEAGHER
1155
UPPER MUSSELSHELL S. C. D.
WHEATLAND
HARLOWTON
LOWER MUSSELSHELL S. C. D.
RIVER
ROSEBUD CO. S. C. D.
10C2
S. C. D.
1185
S. FORK
1205
MUSSELSHELL
GOLDEN VALLEY
ROUNDUP
MEAGHER
LEBO CR.
1220
RYEGATE
10C3
2005
LEGEND
13E2 SNOW SURVEY COURSE
12D2M SOIL MOISTURE STATION
13B3A AERIAL MARKER AT SNOW COURSE
0125 STREAM GAGING STATION
DRAINAGE
S. C. D. BOUNDARY
WATERSHED BOUNDARY
HIGHWAY
TOWN
COUNTY BOUNDARY
STATE BOUNDARY
SCALE 10 0 10 20 30 40 MILES

# WATER SUPPLY FORECASTS

AS OF MAY 1, 1962

WATERSHED X
Judith & Musselshell

(1000 Acre Feet)

| NO. | RIVER AND FORECAST POINT | FORECAST PERIOD | FORECAST THIS YEAR | PERCENT AVERAGE | MEASURED FLOW LAST YEAR* | MEASURED FLOW AVERAGE |
|---|---|---|---|---|---|---|
| | MUSSELSHELL RIVER | | | | | |
| | South Fork | | | | | |
| 1185 | Martinsdale (above) | May-Sept | 42.0 | 91 | 9.5 | 46.3 |
| | | May-July | 40.2 | 91 | 9.1 | 44.2 |
| 1205 | Harlowton (at)(9) | May-Sept | 60.8 | 89 | | 68.2 |
| | | May-July | 59.8 | 89 | | 67.2 |
| | MISSOURI RIVER | | | | | |
| 1095 | Virgelle (at)(6) | May-Sept | 3412 | 90 | | 3799 |
| | | May-July | 2859 | 89 | | 3209 |
| 1150 | Zortman (near)(6) | May-Sept | 3675 | 89 | | 4140 |
| | | May-July | 3095 | 89 | | 3477 |

(9) Corrected for storage in Durand and Martinsdale Reservoirs.
(6) Corrected for storage in Canyon Ferry and Tiber Reservoirs.

*PROVISIONAL DATA FURNISHED BY U. S. GEOLOGICAL SURVEY

# RESERVOIR STORAGE DATA

AS OF APRIL 30, 1962

(1000 Acre Feet)

| NO. | RESERVOIR | USABLE CAPACITY | THIS YEAR | LAST YEAR | AVERAGE |
|---|---|---|---|---|---|
| 1105 | Ackley | 5.8 | N.R. | 4.1 | 4.3 |
| 1165 | Durand | 7.0 | 3.4 | 4.7 | 6.2 |
| 1190 | Martinsdale | 23.1 | 7.6 | 4.4 | 11.4 |

NOTE: ALL AVERAGES BASED ON 1943-1957 (15 YEAR PERIOD)

# SNOW SURVEY DATA

AS OF MAY 1, 1962

(Inches)

| SNOW COURSE | | | CURRENT DATA | | | PAST RECORD | |
|---|---|---|---|---|---|---|---|
| | | | | | | WATER CONTENT | |
| NO. | NAME | ELEVATION | DATE OF SURVEY | SNOW DEPTH | WATER CONTENT | LAST YEAR | AVERAGE |
| 10C1 | Kings Hill | 7950 | 4/27 | 32 | 10.9 | 12.4 | 14.1* |

NOTE: ALL AVERAGES BASED ON 1943-1957 (15 YEAR PERIOD). *ADJUSTED AVERAGE

# WATER SUPPLY OUTLOOK

## UPPER YELLOWSTONE RIVER BASIN

## MONTANA

AS OF:

MAY 1, 1962

U. S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE

The water supply outlook for the coming irrigation season is good. Continuation of above average temperatures and deficient precipitation could cause some shortage during the later portion of the irrigation season.

Snow survey measurements made near the first of May show the water content of the snow is 20 percent more than last year and 90 percent of the 15-year average.

Streamflow during April was above average. Streamflow for the next 5 months is expected to be slightly above average in the headwaters of the Yellowstone, Shields, Stillwater and Rock Creek drainages. Below average flows are expected in the Clarks Fork and lower Yellowstone drainages.

Mountain soils are saturated while valley soils are drying rapidly.

*Report Prepared by*

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U. S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE
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THE CONSERVATION OF WATER BEGINS WITH THE SNOW SURVEY



USDA SCS LINCOLN NEBR 1960

5,L-16,510.1

MONTANA
XI
WILSALL
CLYDE PARK
1935
1940
SHIELDS R.
LIVINGSTON
1925
SWEET GRASS S.C.D.
BIG TIMBER
2000
SWEET GRASS CR.
RIVER
2005
10C3
SWEET GRASS
BOULDER R.
STILLWATER
STILLWATER S.C.D.
COLUMBUS
PARK CITY
LAUREL
BILLINGS
2145
BROADVIEW
YELLOWSTONE S.C.D.
YELLOWSTONE
JOLIET
2085
FROMBERG
BRIDGER
2050
2047
2045
ABSAROKEE
2125
ROCK CR.
RED LODGE CR.
EAST ROSEBUD CR.
RED LODGE
9D2
9D1
2095
CARBON
CARBON CO. S.C.D.
2075
FORK
310
POWELL-CLARKS FORK S.C.D.
PARK
10D1
10D3
10D4
YELLOWSTONE R.
PARK S.C.D.
10D6
1915
GARDINER
10D5
COOKE CITY
10D7
MAMMOTH HOT SPRINGS
11E6
10E1
10E2
10E3
9E1
CLARKS
CODY S.C.D.
LAKE OUTLET
10E4
YELLOWSTONE NATIONAL PARK
10E5
10E6
YELLOWSTONE LAKE
10E7
WYOMING
LEGEND
13 E 2 SNOW SURVEY COURSE
12D2M SOIL MOISTURE STATION
13B3A AERIAL MARKER AT SNOW COURSE
0125 STREAM GAGING STATION
DRAINAGE
S. C. D. BOUNDARY
WATERSHED BOUNDARY
HIGHWAY
TOWN
COUNTY BOUNDARY
STATE BOUNDARY
N
SCALE 10 0 10 20 30 40 MILES

# WATER SUPPLY FORECASTS

WATERSHED XI
Upper Yellowstone

AS OF MAY 1, 1962

(1000 Acre Feet)

| NO. | RIVER AND FORECAST POINT | FORECAST PERIOD | FORECAST THIS YEAR | PERCENT AVERAGE | MEASURED FLOW LAST YEAR* | MEASURED FLOW AVERAGE |
|---|---|---|---|---|---|---|
| | YELLOWSTONE RIVER | | | | | |
| 1915 | Corwin Springs (at) | May-Sept | 2078 | 110 | 1307 | 1888 |
| | | May-July | 1705 | 109 | 1079 | 1557 |
| 1925 | Livingston (near) | May-Sept | 2336 | 109 | 1370 | 2136 |
| | | May-July | 1918 | 109 | 1116 | 1747 |
| 2145 | Billings (at) | May-Sept | 4234 | 106 | 2294 | 3998 |
| | | May-July | 3555 | 105 | 1872 | 3393 |
| 3090 | Miles City (at)(12) | May-Sept | 6195 | 100 | 2966 | 6182 |
| | | May-July | 5357 | 100 | 2440 | 5343 |
| 3295 | Sidney (near)(12) | May-Sept | 6210 | 98 | 2737 | 6362 |
| | | May-July | 5300 | 98 | 2311 | 5430 |
| | SHIELDS RIVER | | | | | |
| 1935 | Clyde Park (at) | May-Sept | 95.6 | 103 | 32.4 | 92.5 |
| | | May-July | 87.8 | 103 | 30.6 | 84.8 |
| | ROSEBUD CREEK | | | | | |
| 2045 | Absarokee (near)(11) | May-Sept | 270 | 106 | 142 | 255 |
| | | May-July | 215 | 106 | 103 | 204 |
| | STILLWATER RIVER | | | | | |
| 2050 | Absarokee (near)(11) | May-Sept | 624 | 105 | 347 | 594 |
| | | May-July | 518 | 104 | 272 | 497 |
| | CLARKS FORK RIVER | | | | | |
| 2075 | Chance (at) | May-Sept | 545 | 93 | 435 | 590 |
| | | May-July | 488 | 93 | 390 | 525 |
| 2085 | Edgar (at) | May-Sept | 568 | 94 | 441 | 616 |
| | | May-July | 497 | 92 | 371 | 540 |
| | ROCK CREEK | | | | | |
| 2095 | Red Lodge (near) | May-Sept | 128 | 117 | 76.2 | 109 |
| | | May-July | 98 | 117 | 56.6 | 83.6 |

(11) Corrected for storage in Mystic Lake.
(12) Corrected for storage in Buffalo Bill and Boysen Reservoirs.

*PROVISIONAL DATA FURNISHED BY U. S. GEOLOGICAL SURVEY

# RESERVOIR STORAGE DATA

AS OF APRIL 30, 1962

(1000 Acre Feet)

| NO. | RESERVOIR | USABLE CAPACITY | THIS YEAR | LAST YEAR | AVERAGE |
|---|---|---|---|---|---|
| 2120 | Cooney Reservoir | 27.5 | 20.0 | - | 14.7 |
| 2040 | Mystic Lake | 20.8 | 1.4 | 4.8 | 3.3 |

NOTE: ALL AVERAGES BASED ON 1943-1957 (15 YEAR PERIOD)

# SNOW SURVEY DATA

## AS OF MAY 1, 1962

(inches)

| SNOW COURSE | | | CURRENT DATA | | | PAST RECORD | |
|---|---|---|---|---|---|---|---|
| | | | | | | WATER CONTENT | |
| NO. | NAME | ELEVATION | DATE OF SURVEY | SNOW DEPTH | WATER CONTENT | LAST YEAR | AVERAGE |
| 9D1 | Camp Senia | 7890 | 5/1 | 26 | 8.3 | 4.6 | - |
| 10E3 | Canyon | 7500 | 5/1 | 42 | 15.5 | 10.0 | 12.6* |
| 10D7 | Cooke City | 7400 | 4/30 | 14 | 3.8 | 6.6 | 6.6* |
| 10D4 | Devil's Slide | 8100 | 4/28 | 67 | 25.0 | 23.6 | 23.4 |
| 10E6 | East Entrance | 7000 | 4/30 | 0 | 0 | 0 | 4.9* |
| 9D3 | Gertrude Lake | 9250 | 5/1 | 49 | 16.4 | 12.2 | - |
| 9D5 | Grizzly Peak | 8400 | 4/30 | 71 | 25.8 | 12.2 | - |
| 10D3 | Hood Meadow | 6600 | 4/28 | 18 | 4.8 | 7.6 | 5.5 |
| 10D6 | Independence | 8000 | 4/30 | 38 | 15.2 | 16.8 | - |
| 10E4 | Lake Camp #1 | 7850 | 4/29 | 32 | 9.9 | 5.9 | 8.7* |
| 9E1 | Lodgepole | 8200 | 4/30 | 24 | 7.2 | 6.8 | 11.0 |
| 10E1 | Lupine Creek | 7300 | 5/1 | 18 | 6.2 | 6.8 | 8.6* |
| 10D12 | Monument Peak | 9000 | 4/30 | 64 | 26.0 | 26.2 | - |
| 10E2 | Norris Basin | 7500 | 5/1 | 14 | 5.2 | 5.7 | 6.3* |
| 10D10 | Sacajawea | 6550 | 4/27 | 14 | 6.0 | 11.1 | - |
| 10E5 | Sylvan Pass | 7100 | 4/30 | 8 | 2.5 | 8.6 | 10.7* |
| 9D4 | Timberline Creek | 8850 | 5/1 | 51 | 17.1 | 12.4 | - |

NOTE: ALL AVERAGES BASED ON 1943-1957 (15 YEAR PERIOD). *ADJUSTED AVERAGE